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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,164	03/31/2004	Ching-Lung Yang	Q80864	4473

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EXAMINER

PIZIALI, ANDREW T

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/813,164

**Applicant(s)**

YANG, CHING-LUNG

**Examiner**

Andrew T. Piziali

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 18 objected to because of the following informality: It appears that the phrase “arranged in a similar as the EMI shielding layer” should read “arranged in a similar way to the EMI shielding layer.” Appropriate correction is requested.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 20-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 20 and 22 recite the limitation “the second EMI shielding layer.” There is insufficient antecedent basis for this limitation in the claims.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 12-13, 20 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 4,040,937 to Iijima et al. (hereinafter referred to as Iijima).

Regarding claims 1-4, 12-13, 20 and 22, Iijima discloses a compound material that at least comprises a first high heat conductive layer (1) and a first EMI shielding layer (6 or 7) which are integrated together, among which the first EMI shielding layer form a plurality of pre-

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set compartmented portions (see entire document including column 5, line 7 through column 6, line 9 and Figures 5-8). It is noted that the examiner interprets the claimed “high heat conductive layer” as a layer of material that is thermally conductive.

Regarding claims 2-4, Iijima discloses that the first high heat conductive layer and the first EMI shielding layer are overlapped in a vertical direction (Figures 5-8).

Regarding claims 3 and 4, Iijima discloses that the arrangement of the compartmented portions of the first EMI shielding layer may be tessellated (Figures 5-8).

Regarding claims 4 and 13, Iijima discloses that the compartmented portions are a plurality of EMI shielding blocks comprising EMI shielding material (Figures 5-8).

Regarding claims 12-13, 20 and 22, Iijima discloses that a second high heat conductive layer may be overlapped on the first EMI shielding layer opposite to the first heat conductive layer (Figures 5-8).

Regarding claims 20 and 22, Iijima discloses that the EMI shielding blocks may be made from copper or aluminum.

6. Claims 1-20 and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,632,942 to Yeh et al. (hereinafter referred to as Yeh) in view of (to show inherency) USPN 4,598,017 to Bayer et al. (hereinafter referred to as Bayer).

Regarding claims 1-20 and 22-24, Yeh discloses a compound material that at least comprises a first high heat conductive layer (1) and a first EMI shielding layer (2) which are integrated together, among which the first EMI shielding layer form a plurality of pre-set compartmented portions (see entire document including column 5, line 9 through column 7, line 47 and Figures 1C and 3). Yeh discloses that the first high heat conductive layer (1) can comprise

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aluminum oxide (column 5, lines 19-25). Bayer discloses that aluminum oxide is a highly heat conductive material (column 4, lines 16-28).

Regarding claim 2-11, Yeh discloses that the first high heat conductive layer and the first EMI shielding layer are overlapped in a vertical direction (Figure 1C).

Regarding claims 3-11, Yeh discloses that the arrangement of the comparted portions of the first EMI shielding layer may be tessellated (Figure 3).

Regarding claims 4-11, Yeh discloses that the comparted portions are a plurality of EMI shielding blocks comprising EMI shielding material (paragraph bridging columns 6 and 7).

Regarding claims 5-11 and 14, Yeh discloses that the EMI shielding blocks are separately and alternately arranged (Figure 3).

Regarding claims 6-11, 20 and 22-24, Yeh discloses that the EMI shielding blocks may be made from electromagnetic wave absorbing material (column 7, lines 4-29).

Regarding claims 7-11, 15-19 and 23-24, Yeh does not specifically mention planography printing, but Yeh does disclose that the EMI blocks may be formed by a substantially identical method such as screen printing (column 6, lines 52-57). It is the examiner's position that the article of the applied prior art is identical to or only slightly different than the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show obvious difference between the claimed product

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and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). The applied prior art either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the applied prior art.

Regarding claims 8-11, Yeh discloses that a second high heat conductive layer may be overlapped on the first EMI shielding layer opposite to the first heat conductive layer (Figures 1C).

Regarding claims 9-11, 16-19 and 23-24, Yeh discloses that a second EMI shielding layer may be overlapped on the first second conductive layer opposite to the first EMI shielding layer (Figure 1C).

Regarding claims 10-11, 17-19 and 24, Yeh discloses that second EMI shielding layer may be identical to the first EMI shielding layer and that the two layers may be staggered (paragraph bridging columns 6 and 7 and Figure 3).

Regarding claim 11, Yeh discloses that a third high heat conductive layer may be overlapped on the second EMI shielding layer opposite to the second heat conductive layer (Figure 1C).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5-11, 14-19 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,040,937 to Iijima (as applied to claims 1-4, 12-13, 20 and 22 above).

Regarding claims 5-11, 14-19 and 23-24, Iijima does not specifically show EMI shielding blocks separately arranged, but Iijima does disclose that the shape and the arrangement of the holes may be selected arbitrarily (column 6, lines 6-9). Iijima also discloses that the holes are present so that the resin on both sides of the EMI shielding layer can be united to increase adhesion strength (column 5, lines 53-62). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the holes in any suitable arrangement, such as separately arranged, because it is understood by one of ordinary skill in the art that the size of the holes determines the adhesion strength between the resin layers and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Regarding claims 6-11 and 23-24, Iijima discloses that the EMI shielding blocks may be made from copper or aluminum.

Regarding claims 7-11, 15-19 and 23-24, Iijima discloses a variety of methods including an insert molding method (column 7, line 16 through column 8, line 6).

Regarding claims 8-11, Iijima discloses that a second high heat conductive layer may be overlapped on the first EMI shielding layer opposite to the first heat conductive layer (Figures 5-8).

Regarding claims 9-11, 16-19 and 23-24, Iijima discloses that a second EMI shielding layer may be overlapped on the first second conductive layer opposite to the first EMI shielding layer (column 5, lines 42-52 and Figures 3-4).

Regarding claims 10-11, 17-19 and 24, Iijima discloses that second EMI shielding layer may be identical to the first EMI shielding layer and that the two layers may be staggered (Example 2 and Figure 3).

Regarding claim 11, Iijima discloses that a third high heat conductive layer may be overlapped on the second EMI shielding layer opposite to the second heat conductive layer (column 5, lines 42-52 and Figures 3-4).

9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,040,937 to Iijima as applied to claims 1-4, 12-13, 20 and 22 above, and further in view of USPN 6,720,082 to Hashimoto et al. (hereinafter referred to as Hashimoto).

Iijima does not specifically mention the use of aluminum oxide to make the resin conductive, but Iijima discloses that an electrically conductive material such as carbon powder or a metal powder may be used (column 6, lines 47-62). Hashimoto discloses that in addition to carbon powders and metal powders, it is known in the conductive resin art that aluminum oxide particles may be added to a resin to make it conductive (column 12, lines 40-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the conductive powder from any suitable conductive material, such as  $\text{Al}_2\text{O}_3$ , because it has been

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held to be within the general skill of a worker in the art to select a known material on the basis of its suitability.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gtp 10/26/05

**ANDREW T. PIZIALI  
PATENT EXAMINER**

atp